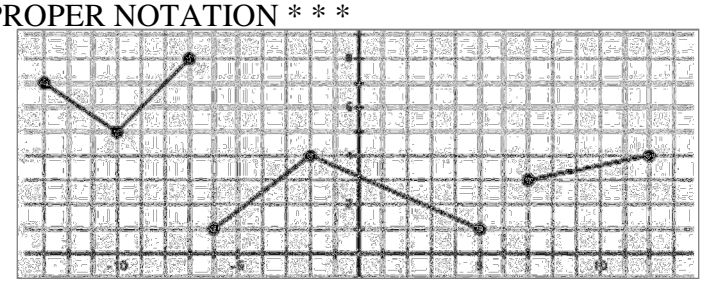
4RH REVIEW Main Features of Functions Name _____ Per: ___

SHOW YOUR WORK AND WORK IN PENCIL

* * * MAKE SURE TO USE PROPER NOTATION * * *



For the graph right state the absolute min/ max and then the relative min/max over the given interval. State intervals where it's increasing / decreasing

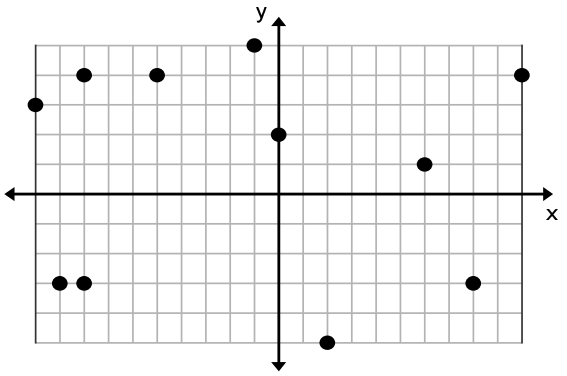
1. What is the absolute minimum of the graph _____
2. What is the absolute maximum of the graph _____
3. Is the data continuous, discontinuous, or discrete? _____

4. **On the interval from [−13, −7]**
   a. Relative minimum _____
   b. Relative maximum _____
   c. Interval increasing _____
   d. Interval decreasing _____
   e. Cont/Disc _____

5. **On the interval from [−6, 5]**
   a. Relative minimum _____
   b. Relative maximum _____
   c. Interval increasing _____
   d. Interval decreasing _____
   e. Cont/Disc _____

6. **On the interval from [7,12]**
   a. Relative minimum _____
   b. Relative maximum _____
   c. Interval increasing _____
   d. Interval decreasing _____
   e. Cont/Disc _____

Use the graph right for #7-#11.

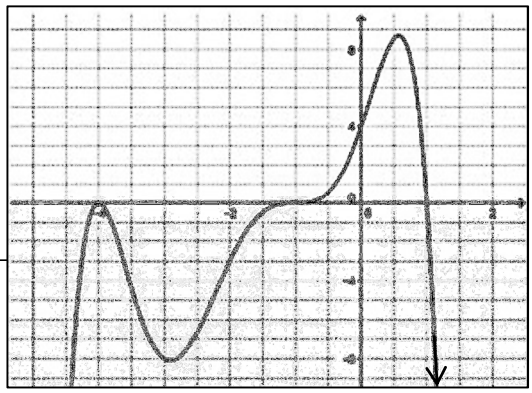


7. What is the absolute minimum from [−10, 10] _____
8. What is the absolute maximum from [−10, 10] _____
9. Continuous, Discontinuous or Discrete? _____
10. From [−10, 2), what is the relative max? _____ Min? _____
11. From [4, 10], what's the relative max? _____ Min? _____

12. Use the graph to the right for the following.
    a. Does the graph represent a function? _____ How do you know?

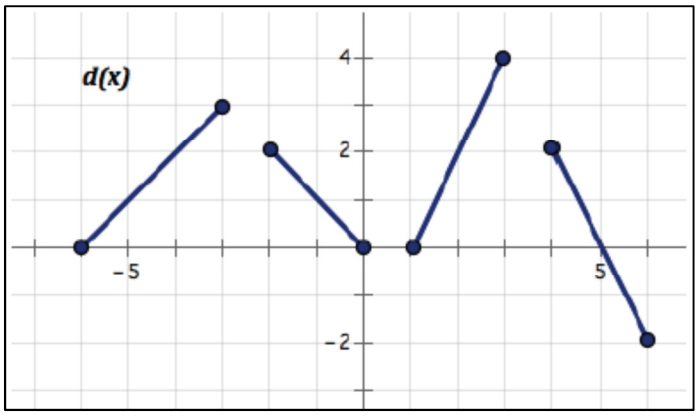
    _____

    b. List an interval where the graph is decreasing? _____
    c. List an interval where the graph is increasing? _____
    d. Is the graph increasing or decreasing at $f(.25)$? _____
    Explain _____
    e. What is the absolute maximum? _____ absolute minimum? _____
    f. Is the data continuous, discontinuous, or discrete? _____
    g. What is the domain? _____ Range? _____



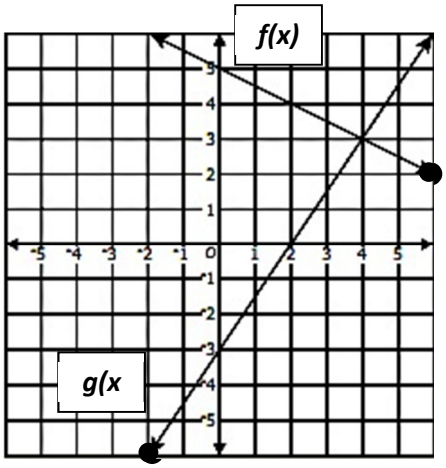
    h. What is the relative maximum from [-3, -1]? _____ relative minimum? _____
    i. Find $f(-2)$ = _____ $f(-4)$ = _____ $f(-2) + f(-4)$ = _____

13. Answer the questions based on the graph.



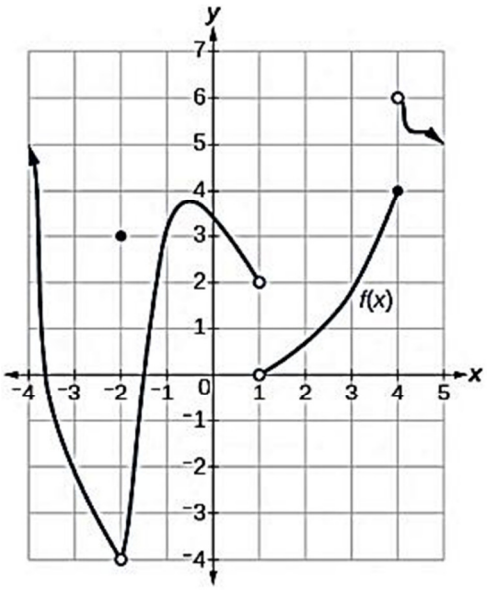
a. Function? YES/NO
b. Discrete, Continuous, Discontinuous
c. Domain: _____
d. Range: _____
e. Absolute Max: _____
f. Relative Max over [–6, 2]: _____
g. Circle where it's increasing most quickly
   Explain _____
h. Circle where it decreases most quickly
i. d(–5): _____ d(x) = 4 _____ d(4) = _____ d(x) = 0 _____ d(x) = –2 _____

14. Complete the following based on the graph to the right.



a. Where is $f(2)$? _____
b. Where is $f(0)$? _____
c. Where is $f(x) = 4$? _____
d. Where is $g(-2)$? _____
e. Where is $g(x) = -3$? _____
f. Where is $g(4)$? _____
g. Domain of $f(x)$: _____
h. Range of $f(x)$: _____
i. Domain of $g(x)$: _____
j. Range of g(x):_____
k. Approximate where $f(x)=g(x)$? _____
l. Write the equation for $f(x)$: _____
m. Write the equation for $g(x)$: _____
n. Algebraically find $f(x)=g(x)$.

15. Give the following information based on the graph right. Restrict your answers to what is displayed on the grid. Estimate if necessary.



a. Is the graph a function? _____ Explain: _____
b. What's the relative max on the interval $(0, 4]$? _____
c. What is the Domain: _____ Range: _____
d. List an increasing interval: _____Decreasing: _____
e. What is $f(-2)$? _____
f. What is $f(1)$? _____
g. What is $f(x) = -4$? _____
h. What is $f(x) = -2$?_____
i. Is the data continuous, discontinuous, or discrete?

16. If $f(x) = -2x - 5, g(x) = \frac{1}{2}x + 3$ *and* $h(x) = x^2 - 2$

a. Find $f(1) + h(-2) =$_____
b. Find $f(2) + g(-6) =$ _____
c. Find $h(1) + f(-2) =$ _____
d. Find $g(-2) + f(0) =$ _____